Quiz 2
Coding Theory

3^{rd} February 2006

Time: 1 hours (12:30–1:30pm)

1. Let $S = \{11010, 10111, 01010, 01101\}$. Find a basis for $C\ \langle S \rangle$. [5] What is the dimension k? [1] Find the binary code C. [4] Find also all cosets of C. [10]

2. Based on te factorisation $x^6 - 1 = (1+x)^2 \left(1 + x + x^2\right)^2$, find a binary $[6, 3]$ cyclic code. [10]